AUTHOR INDEX

Aarholt E., 929*
Abu-Jarad F., 75
Agard E. T., 85*
Agelao G., 73
Ahmad G. U., 272
Aitken J. H., 727
Altman S. M., 738
Arthur W. J. III, 493
Austin M. A., 587
AzorínN J., 590

Bacca J. P., 465
Ballou J. E., 669
Ban S., 481
Bartle C. M., 715
Beasley T. M., 501
Beck H. L., 335
Beiter H., 859
Bentvelzen P., 231
Berteig L., 922
Bhagwat A. M., 399
Bigelow W. S., 205
Biggs P. J., 601
Binkowski F. S., 813, 829
Blatt R. C., 391
Bondietti E. A., 663
Borak T. B., 219
Bowers E. J., 276*
Bowers R. R., 615†
Bowman G. C., 251
Bridgman G. J., 205
Brisbin I. L., Jr., 266
Brown M. J., 345
Browne P., 409
Brues A. M., 444*
Bryant P. M., 598
Buddemeier R. W., 287†
Burch P. R. J., 275*
Button T. M., 853

Campbell F. E., 428
Campos L. L., 731
Caplan H., 428
Chakarvarti S. K., 425
Checkoway H., 275*
Chen H. T., 647
Cheng C.-H., 803
Chong C. S., 272
Chowdhury A., 225
Clelland A. B., 276*
Clelland R. C., 276*
Cloutier R. J., 616†
Cohen N., 742
Colard J., 733
Cooper J. R., 912
Cotter S. J., 355
Courtney J. C., 465
Cristy M., 930*
Crouch E., 345
Cunningham D. E., 259

Darai G., 239
Datta R., 745*
Datta S., 745*
De Ford H. S., 669
Domanski T., 747*
Dougherty G., 915
Drexler G., 932*
Dua S. K., 399
Dunning D. E., 631
Dunster H. J., 438*

Eckerman K. F., 307
Edison A. F., 521
El-Assaly F. M., 567

Fraley L., Jr., 251
Ferguson K. R., 465
Finkel, M. P., 288†
Flügel R., 239
Fourcade N., 428
Fremlin J. H., 75
Fyfe M. C., 377
Gale H. J., 747*
Gammage R. B., 225
Gelein R., 859
Gerber G. B., 733
Gogolak C. V., 280*
Golden J. C., 282*, 583
Gonor J. J., 501
Gorham L. S., 509
Gur D., 587
GutiérrezC A., 590
Gupta M. K., 420
Gupta P. C., 399

Hadlock D. E., 45
Hackett P. L., 80
Haile J., 428
Hajnal F., 263
Hallam J., 598
Hamilton R. G., 853
Hamm R. N., 845
Hanson W. C., 323
Harley N. H., 738
Harrison J. D., 283*, 912
Hasegawa S., 383
Hawrynski M., 747*
Haymond M. W., 561
Hemming C. R., 598
Henry H. F., 707
Hewett C. J., 875
Hickey R. J., 276*
Hirayama H., 481
Hirning C. R., 727
Hiromoto G., 845
Hofmann W., 31, 239
Holson C. E., 465
Hoots S. S., 905
Horst T. W., 269
Hough J. H., 715
Hozumi K., 481
Hubner R. S., 282*, 583
Hunt C. J., 875

Ichikawa R., 247
Inaba J., 247

Johnson J. R., 573
Jones D. T. L., 715

Kase K. R., 288†
Kathren R. L., 45
Kelman B. J., 80
Kimura K. I., 247
Kirchmann R., 733
Kolber A. B., 738
Korff S. A., 436*

*Indicates Letters to the Editors.
†Indicates Book Reviews.

Kosako T., 3
Kotrappa P., 399, 609*
Kramer R., 932*
Kriege L. B., 543
Kuei-Lin L., 13
Kumamoto Y., 719

Lahti G. P., 282*, 583
Lal N., 425
Landman K. A., 65
Landrum V., 905
Lassey K. R., 749*
Leach V. A., 363
Lee S. Y., 663
Leggett R. W., 307
Linsalata P., 742
Linsley G. S., 679
Little C. A., 355
Little R. J. A., 693
Lloyd R. D., 615†
Lokan K. H., 363
Lorz H. V., 501
Lucas H. F., Jr., 278*
Luckey T. D., 771
Lundgren D. L., 655

Maitz A. H., 587
Markham O. D., 251, 493
Martin L. J., 363
Marvyama T., 719
Mascarenhas S., 731
Matthies M., 752*
Mayya Y. S., 609*
McLaughlin J. E., 263
McMurray W. R., 715
Meadows S. D., 595
Mercer T., 749*
Mewhinney J. A., 521
Miller C. W., 355
Minamide S., 383
Miura S., 481
Morrow P., 859
Murphy D. W., 669
Murphy P. H., 446*
Murphy T. D., 815†

Nagpaul K. K., 425
Nakamura T., 3
Nambl K. S. V., 399
Ng C. E., 915
Nishimura Y., 247
Nissen S., 561
Nyhan J. W., 531

O'Brien B. G., 279*
Oliveri E., 73

Parnell S. M., 377
Parthasarathy K. S., 443*
Pavlick R. A., 405
Payne A. W., 813, 829
Picano J., 859
Pimpale N. S., 399
Poston J. W., 446*, 647
Pradhan A. S., 391
Prasad S. K., 609*
Prime D., 609*
Pucio P., 73

Rao G. R., 587
Rea T. M., 612*
Reif A. E., 891
Romano M. C., 73

Salazar J., 595
Salvi P. C., 590
Sanna R. S., 263
Scherpelz R. I., 187
Schwarz G., 631
Scott J., 859
Seidel A., 239
Sharma P. K., 425
Sharma Y. P., 425
Shepherd J. G., 875
Sikov M. R., 80
Simmonds J. R., 679
Simmons P. S., 561
Slaback L. A., Jr., 935*
Sliney D. H., 445*
Smith C. W., 439*, 929*
Snyder W. H., 813, 829
Soman S. D., 399
Sontag W., 239
Stanley J. A., 521
Stather J. W., 283*
Stevenson G. P., 13
Stinchcomb T. G., 219
Stranden E., 922
Suarez A. A., 731
Sullivan M. F., 285*, 509

Takagaki M., 705
Takenaga M., 383
Talwar I. M., 425
Tamura T., 663
Taylor L. S., 435*
Thein M., 587
Thomas J. M., 323
Thomas R. H., 13, 87†
Todo A. S., 845
Triest W. E., 891
Trujillo G., 531
Tsuruta T., 705
Tsutsui H., 383
Turner J. E., 845
Tymen G., 611*

van Bekkum D. W., 231
Van Bruwaene R., 733
Vargo M. J., 266
Vohra K. G., 391
Voillequé P. G., 405

Waight P. J., 746*
Watson J. E., Jr., 813, 829
Weaver K. E., 275*
Weng P.-S., 803
White C. G., 531
White D. R., 409
Willard D. H., 669
Williams A. R., 279*
Williams G., 932*
Williams L. R., 307
Wirth E., 919
Wise K. N., 53
Worley R. D., 422
Wright H. T., 845
Wu T.-Y., 803

Yamamoto O., 383
Yamashita T., 383
Yang Y.-C., 803
Yasuno Y., 383
Yuile C., 859

Zemel B. S., 276*
Zettwoog P., 428

SUBJECT INDEX

Accelerators (see also Synchrotrons)
  Shielding for proton, Moyer model for transverse 13
Air
  Activation by electron synchrotron 3
Alanine
  Dosimetry data for [1-^{14}C], for human studies 561
Alaska
  Strontium-90 body burden and radiation dose in Eskimos due to fallout 323
Americium-241
  Absorption from G.I. tract of neonatal animals 509
  Absorption from rodent G.I. tract, tissue distribution and excretion of 283, 285
  Retention in animals after inhalation of UO_2-PuO_2 aerosols 521
Antimony-124
  Metabolism in lactating dairy cows 733

Birds
  Cesium-137 concentrations in American coots inhabiting nuclear reactor cooling reservoir 266
Bone
  See Skeleton
Buildings
  Gamma activity in West Malaysia 272
  Radon daughter activity in high-rise 75
BWR
  See Power Reactors

Carbon-14
  Specific activity model for, applicability of 919
Carcinogenesis (see also Neoplasms)
  Gene transfer-misrepair mechanism of radioinduced, effects on linear extrapolation model 231
  Risk for large populations following radiation exposure 745, 747
Cesium-137
  Concentrations in American coots inhabiting nuclear reactor cooling reservoir 266
  Concentrations in marine species caught in Malaysian waters 915
  Concentrations in stream channels and banks of liquid effluent-receiving areas 531
  Dose estimates for ingested, imprecision due to human biological characteristics 631
  Transport in pasture-cow-milk food chain 749, 752
China
  Radiation control through licensing and training in Taiwan 803
Cobalt-60
  Retention and distribution in rats after ingestion in food 247

Concrete
Radon diffusion through cracks in 65
Coyotes
Radionuclide export and elimination by, at waste disposal areas in Idaho 493
Curium-244
Absorption from G.I. tract of neonatal animals 509

Dielectric Track Detectors
Etching parameters for CR-39 fast neutron dosimeter, optimization of 225
Neutron dosimetry by spark counting of tracks in boron-doped film 705
Use for collection and measurement of radon and thoron decay products 399
Diet
See Food Products
Dogs
Actinide element absorption from G.I. tract of neonatal 509
Inhalation of UO_2-PuO_2 aerosols, Pu and Am retention from 521
Plutonium-239 retention from repeated inhalation of PuO_2 655
Uranium fluoride (UF_6/UO_2F_2) inhalation and intravenous studies on 859

Electret Dosimeters
Performance for fast neutrons 731
Electrets
Use for collection and measurement of radon and thoron decay products 399
Electrons
Energy absorption in trabecular bone 647
Interaction data for 69 ICRP Reference Man tissues, polynomial coefficients for 409
Production in water by photons up to 1 GeV, initial energies of 845
Elk
Radionuclide concentrations in tissues of, using Los Alamos National Laboratory land 595

Fallout
Prediction model 205
Strontium-90 body burden and radiation dose to Alaska Eskimos from 323
Food Chains
Cesium-137 transport in pasture-cow-milk 749, 752
Food Products
Cesium-137 and potassium-40 levels in marine species caught in Malaysian waters 915
Plutonium absorption from food materials, effects of phytate on 912
Uranium assay in milk 425

Gamma Radiation
Activity in building materials in West Malaysia 272
Dosimetry of, response of $CaSO_4$:Dy Teflon discs for 391
Exposure dose near finite Gaussian plume 583
Exposure from sector-averaged Gaussian plume 280, 282

Measurement of environmental, in Sicily 73
Measurement of exposure over water to detect small increments due to local sources 738
Spectral composition of exposure rate due to noble gases released during reactor accident 335
Gastrointestinal Tract
Actinide absorption from rodent, tissue distribution and excretion of 283, 285
Actinide element absorption from neonatal animal 509
Geiger-Mueller Counters
Sensitivity of ZP1320, for neutron detection, absolute measurement of 715

Health Physics Society
President's message, 1982 1
Hot Cells
Decontamination of, radiation safety aspects 465
Human Populations (see also Man)
Identification of critical groups and application to seafood consumers on North-East Irish Sea coast 875
Risk for cancer induction following radiation dose 745, 747
Strontium-90 body burden and radiation dose to Alaska Eskimos from fallout 323
Surveillance program for Nevada Test Site environs, 1971 through 1980 791

ICRP #26
Risk estimate constraints 935
Idaho
Radionuclide export and elimination by coyotes at waste disposal areas in 493
Iodine
Intake of radioiodine by human mother, fetal thyroid dose from 573
Iodine-125
Effluent concentration in protein iodinations, charcoal-filter counting for 853
Iodine-129
Concentration in rabbit thyroids near Idaho National Engineering Laboratory 251
Ionization Chambers
Comparison with film badges for personnel dosimetry 745
Iowa
Radium-226 and radium-228 in drinking water 543

Krypton
Fission gases released from reactor accident, gamma exposure rate from 335
Krypton-85
Distribution and retention in Wistar rat tissues 669
Purge at Three Mile Island, public health effects of 598

Magnetic Fields
Relationship of environmental, to suicide data 439
Man (see also Human Populations)
Breast size of reference female 930, 932

Cesium-137 ingestion, dose estimate imprecision due to biological characteristics 631
Electron interaction data for 69 ICRP Reference Man tissues, polynomial coefficients for 409
Mortality of, association with low-level ionizing radiation 275, 276
Pain relief, environmentally stimulated endogenous opiates for 929
Physiological benefits from low levels of ionizing radiation 771
Radioiodine intake by mother, fetal thyroid dose from 573
Radium-226 assessment in dial painters 567
Suicide data relationship to environmental magnetic fields 439
Molluscs
Technetium biokinetic behavior in red abalone 501
Monkeys
Inhalation of UO_2-PuO_2 aerosols, Pu and Am retention from 521

Natural Background Radiation
Dosimetry of neutron, using polycarbonate foils and ^{10}B radiators 719
Exposure levels 436
Neoplasms
Occurrence of radioinduced, societal cost of 405
Radiation-induced versus radiogenic 275
Neptunium-237
Absorption from G.I. tract of neonatal animals 509
Nevada
Surveillance program for persons living around Nevada Test Site, 1971 through 1980 791
Neutrons
Detection of, sensitivity of ZP1320 G-M counter for 715
Dosimetry by spark counting of tracks in boron-doped film 705
Dosimetry of fast, optimization of etch parameters for CR-39 track detector 225
Dosimetry of fast, TLD for clinical 259
Dosimetry of fast, using electrets 731
Dosimetry of natural background, using polycarbonate foils and ^{10}B radiators 719
Quality factor estimates using tissue-equivalent proportional counter measurements 219
New York
Zirconium/niobium-95 concentrations in Hudson River 742
Niobium-95
Concentrations in Hudson River 742
Norway
Radiological characteristics of non-uranium mine atmospheres in 922
Nuclear Facilities (see also Power Reactors)
Iodine-129 concentrations in rabbit thyroids near Idaho National Engineering Laboratory 251
Liquid-effluent receiving areas at Los Alamos, soil Pu and Cs concentrations at 531
Radionuclide atmospheric dispersion from Hanford, observed and predicted 355
Radionuclide concentrations in tissues of elk using Los Alamos lands 595

Occupational Exposure
Radiological characteristics of Norwegian non-uranium mine atmospheres 922
Radium-226 assessment in dial painters 567
Verification of, TLD glow-curve analysis for 905

Photographic Film Detectors
Comparison with pocket chambers for personnel dosimetry 745
Plants
Contamination of grain and leafy vegetables by deposits from atmosphere, modelling of 679
Plutonium
Absorption from food materials, effects of phytate on 912
Concentrations in stream channels and banks of liquid-effluent receiving areas 531
Dissolution of contaminated soils and sediments in lung serum simulant 663
Plutonium-238
Absorption from G.I. tract of neonatal animals 509
Absorption from rodent G.I. tract, tissue distribution and excretion of 283, 285
Plutonium-239
Distribution and retention in tree shrew following injection 239
Effects of monomeric, on fetal rabbits 80
Retention and translocation in dogs from repeated PuO_2 inhalation 655
Plutonium Oxides
Inhalation of UO_2-PuO_2 aerosols, Pu and Am retention from 521
Plutonium-239 retention from repeated inhalation of, in dogs 655
Potassium-40
Concentrations in marine species caught in Malaysian waters 915
Power Reactors
Accidents at, gamma exposure rates from noble gases released during 335
Accidents at BWR, gamma exposure from sector-averaged Gaussian plumes from 280
Accidents at PWR, dose from plume released during 187
Cesium-137 concentrations in American coots inhabiting cooling reservoir of 266
Diffusion parameters in vicinity of standard design, wind tunnel evaluation 813, 829
Krypton-85 purge at Three Mile Island, public health effects of 598
Neutron monitor performance in PWR containments, energy dependence of 263
Primates
Plutonium-239 distribution and retention in tree shrew following injection 239
Proportional Counters
Use of tissue-equivalent, for neutron quality factor determination 219
PWR
See Power Reactors

Rabbits
Iodine-129 thyroid concentrations near Idaho National Engineering Laboratory 251
Plutonium-239 effects on fetal, monomeric 80

Radiation (see also Fallout, Gamma Radiation, Natural Background Radiation, Neutrons, X Radiation)
Effects of, public education on 85
Radiation Detectors (see also Dielectric Track Detectors, Electret Dosimeters Geiger-Mueller Counters, Ionization Chambers, Photographic Film Detectors, Proportional Counters, Scintillation Detectors, Thermoluminescent Dosimeters)
Thermal limitations of gas-filled, in high radiation fields 45
Radiation Doses (see also Occupational Exposure)
Assessment near finite Gaussian plume 583
Calculations for plume of radioactive material released during nuclear accident 187
Calculations for respiratory tract from inhaled radon daughters 31
Calculation of gamma exposure from sector-averaged Gaussian plume 280, 282
Comments on ALARA 438
Comments on ambient 436
Conversion factors for radon daughters in uranium mines 53
Determination for [1-^{14}C] alanine for human studies 561
Effects of low-level, on human mortality 275, 276
Exposure rates for Maximar-100 X-ray therapy machine 420
Measurement of gamma exposure over water to detect small increments due to local sources 738
Physiological benefits from low-level 771
Risk estimates for low, challenge to linear extrapolation model of 231
Risk for cancer induction in large populations 745, 747
Risks of low-level 767
Societal cost of radiation exposure 405
Radiation Protection
Comments on ALARA 438
Emergency planning, role of non-government organizations 435
Identification of critical population groups and application to seafood consumers on North-East Irish Sea coast 875
Licensing and training programs in Taiwan 803
Safety aspects of hot-cell decontamination 465
Radioactive Wastes
Radionuclide export and elimination by coyotes at disposal areas in Idaho 493
Repositories for, extreme scenarios for release from 345
Radionuclides
Activity in presence of background counts, statistical analysis of low-level 693
Atmospheric dispersion from Hanford facility, observed and predicted 355
Concentrations in tissues of elk using Los Alamos National Laboratory land 595
Contamination of grain and leafy vegetables by deposits from atmosphere, modelling of 679
Diffusion in atmosphere near nuclear power plants, wind tunnel evaluation 813, 829
Export and elimination by coyotes at waste disposal areas in Idaho 493
Hazards from waste repository release 345

Measurements of induced, in proton synchrotron accelerator structure 481
Release to atmosphere, airborne and surface contamination from 269
Radioactive Wastes
Disposal as liquid effluents in streams, soil Pu and Am concentrations from 531
Radon
Concentration profile and flux from pilot-scale layered tailings pile 428
Diffusion through cracks in concrete slabs 65
Radiation parameters in open-pit uranium mine 363
Radon-222
Concentrations in European mines 609
Measurements by double-filter method, effort of RaA inflight decay on 609, 611
Radon Progeny
Activity in high-rise buildings 75
Collection and measurement using TLD or track detectors on electrets 399
Concentrations in European mines 609
Concentrations in Norwegian non-uranium mines 922
Diffusion coefficient in air, Debye screening effects on 747, 749
Dose calculations for respiratory tract from inhaled 31
Dose conversion factors in underground and open-cut mine atmospheres 53
Radiation parameters on open-pit uranium mine 363
Radium-226
Assessment in dial painters using whole-body counting 567
Concentrations in Iowa drinking water 543
Counting of, Lucas emanation method for 278, 279
Radium-228
Concentrations in Iowa drinking water 543
Respiratory System
Dose calculations for inhaled natural radionuclides 31
Plutonium-contaminated soil and sediment dissolution in lung serum simulant 663
Uranium dissolution rates in simulated lung fluid 587
Rodents
Actinide absorption from G.I. tract of, tissue distribution and excretion of 283, 285
Actinide element absorption from G.I. tract of neonatal 509
Cobalt-60 retention and distribution in rats after ingestion in food 247
Inhalation of UO_2-PuO_2 aerosols, Pu and Am retention from 521
Krypton-85 distribution and retention in rat tissues 669
Strontium-90 plus external irradiation effects on C57BL/6J mice 891
Ruminants
Antimony-124 metabolism in lactating dairy cows 733

Scintillation Detectors
Performance as neutron monitor in PWR containments, energy dependence of 263
Shielding
Determination for megavoltage radiotherapy facility, computer graphics program for 601
Moyer model for transverse, for proton accelerators 13

Sicily
Gamma radiation measurements in, environmental 73
Skeleton
Charged-particle absorbed energy in trabecular bone 647
Strontium-90 concentrations in human, age-dependent modelling of 307
Strontium-90
Body burden and radiation dose in Alaska Eskimos due to fallout 323
Concentrations in bone, age-dependent modelling of 307
Effects on mice after external gamma irradiation 891
Swine
Actinide element absorption from G.I. tract of neonatal 509
Synchrotrons
Air activation by electron 3
Radionuclides induced in accelerator structure of KEK-PS 481

Technetium
Biokinetic behavior in red abalone 501
Thermoluminescence Dosimeters
Construction of composite thin-element, using optical-heating method 383
Effects of TLD badge on monitoring low-energy X rays 422
Evaluation of minerals as 590
Glow-curve analysis for dose verification in LiF chips 905
Performance as neutron monitor in PWR containments, energy dependence of 263
Response of $CaSO_4$:Dy Teflon discs to X and gamma rays 391
Use for clinical monitoring of fast neutron dose 259
Use for collection and measurement of radon and thoron decay products 399
Track Detectors
See Dielectric Track Detectors
Tritium
Inhalation hazards of tritiated toluene 612
Toluene
Inhalation hazards of tritiated 612

Ultrasonic Instruments
Transducer radiating area of, importance of measuring 377
Uranium
Concentrations in milk 425
Dissolution rates of airborne, in simulated lung fluid 587
Uranium-233
Absorption from G.I. tract of neonatal animals 509
Uranium Fluorides
Inhalation and intravenous studies of UF_6/UO_2F_2 in dogs 859
Uranium Mines
Dose conversion factors for radon daughters in 53
Radiation parameters in open-pit 363
Radon and daughter concentrations in European 609
Radon concentration profiles and flux from pilot-scale layered tailings pile 428

Uranium Oxides
Inhalation of UO_2-PuO_2 aerosols, Pu and Am retention from 521
Uranium Oxyfluorides
Inhalation and intravenous studies of UF_6/UO_2F_2 in dogs 859

Water
Photon irradiation up to 1 GeV, initial energies of electrons from 845
Radium-226 and -228 in Iowa drinking water 543
Zirconium/niobium-95 concentrations in Hudson River 742
West Malaysia
Gamma activity of building materials in 272

X Radiation
Dosimetry of, intercomparison of film badge and pocket chamber dosimeters for 745
Dosimetry of, response of $CaSO_4$:Dy Teflon discs for 391
Emission standard for video display terminals 727
Monitoring low-energy, effects of TLD badge on 422
Reactions in water up to 1 GeV, initial energies of electrons from 845
X-Ray Equipment
Dose rate for Maximar-100, filter thickness dependence of 420
Linearity of diagnostic 275
Shielding for megavoltage radiotherapy facility, computer graphics program for 601
Xenon
Fission gases released from reactor accident, gamma exposure rate from 335
Zirconium-95
Concentrations in Hudson River 742